

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PH-1786-PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/008563	International filing date (day/month/year) 04 July 2003 (04.07.2003)	Priority date (day/month/year) 06 August 2002 (06.08.2002)
International Patent Classification (IPC) or national classification and IPC H02M 7/48		
Applicant SHARP KABUSHIKI KAISHA		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising:	
a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows:	
<input checked="" type="checkbox"/>	sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
<input type="checkbox"/>	sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4. This report contains indications relating to the following items:	
<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand 07 January 2004 (07.01.2004)	Date of completion of this report 08 October 2004 (08.10.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/008563

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
pages _____ 1-36 _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☒ the claims:
pages _____, as originally filed/furnished
pages* _____, as amended (together with any statement) under Article 19
pages* _____ 43-49 received by this Authority on 25 June 2004 (25.06.2004)
pages* _____ received by this Authority on _____
- ☒ the drawings:
pages _____ 1-7, 10-13 _____, as originally filed/furnished
pages* _____ 8, 9 received by this Authority on 25 June 2004 (25.06.2004)
pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☒ the claims, Nos. _____ 1-42 _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☒ the claims, Nos. _____ 1-42 _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP 03/08563

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	43-49	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	43-49	NO
Industrial applicability (IA)	Claims	43-49	YES
	Claims		NO

2. Citations and explanations

Document 1: CD-ROM of the specification and drawings annexed to the request of Japanese Utility Model Application No. 32238/1992 (Laid-open No. 90897/1993), (Enplas Corp.), 10 December 1993

Document 2: Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 30812/1988 (Laid-open No. 134398/1989), (Elevam Corp.), 13 September 1989

Document 3: JP 4-36997 A (Toshiba Lighting & Technology Corp.), 06 February 1992

Document 4: JP 59-144376 A (Matsushita Denko Kabushiki Kaisha), 18 August 1984

Document 5: JP 2001-126888 A (Harison Toshiba Lighting Corp.), 11 May 2001

Document 6: JP 8-110522 A (Matsushita Electric Ind. Co., Ltd.), 30 April 1996

Document 7: JP 5-119311 A (NEC Corp.), 18 May 1993

Document 8: JP 62-234126 A (NEC Home Electronics, Ltd.), 14 October 1987

The inventions that are set forth in claims 43, 45 and 47 do not involve an inventive step in the light of

documents 1-5 cited in the international search report. Documents 1-3 disclose fluorescent bulb lighting devices, which are equipped with a pair of inverter circuits that are configured so as to apply volt alternating currents that have opposite phases to the respective ends of a fluorescent bulb. In addition documents 4 and 5 disclose features wherein a plurality of inverter circuits are interconnected using the inductive coupling effect from the coils of the inverter circuits. Therefore, it would be easy for a person skilled in the art to apply the feature that is disclosed in documents 4-5 in the inverter circuits that are disclosed in documents 1-3.

The inventions that are set forth in claims 44 and 46 do not involve an inventive step in the light of documents 1-5 cited in the international search report. Document 5 discloses a feature wherein a pair of inverter circuits are connected using third windings for passive oscillation. In addition, configuring so that fluorescent bulbs are disposed in parallel and are connected in a manner whereby the applied voltages which are applied to the fluorescent bulbs have sequentially opposite phases when applied to each fluorescent bulb or to the plurality of fluorescent bulbs in a fluorescent bulb lighting device is merely a design matter that can be employed by a person skilled in the art, as appropriate.

The inventions that are set forth in claims 48 and 49 do not involve an inventive step in the light of documents 1-8 cited in the international search report. Documents 6-8 disclose backlight devices that are equipped with light diffusion plates. In addition, documents 6-8 also disclose liquid crystal display devices that are provided with liquid crystal panels.